

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P036157WO:CJM	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/GB2004/005140	International filing date (day/month/year) 08/12/2004	(Earliest) Priority Date (day/month/year) 08/12/2003
Applicant  OXFORD GENE TECHNOLOGY IP LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 8 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2004/005140

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N33/48 C07H21/00 C07D207/46 C07D207/44 C07K17/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N C07H C07K C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	NEUMANN W P ET AL: "STERICALLY HINDERED FREE RADICALS. 14. SUBSTITUENT-DEPENDENT STABILIZATION OF PARA-SUBSTITUTED TRIPHENYLMETHYL RADICALS" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC, US, vol. 108, no. 13, 1986, pages 3762-3770, XP002265819 ISSN: 0002-7863 the whole document ----- -/--	6,7

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* & \* document member of the same patent family

Date of the actual completion of the international search

18 May 2005

Date of mailing of the international search report

30/05/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Bardili, W

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>GILDEA B D ET AL: "A VERSATILE ACID-LABILE LINKER FOR MODIFICATION OF SYNTHETIC BIOMOLECULES"  TETRAHEDRON LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL,  vol. 31, no. 49,  26 November 1990 (1990-11-26), pages 7095-7098, XP000172821  ISSN: 0040-4039  schemes 1, 2</p>	6,7,11
X	<p>LEIKAUF E ET AL: "A COMBINATORIAL PROTECTING GROUP STRATEGY FOR OLIGONUCLEOTIDE SYNTHESIS"  TETRAHEDRON, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL,  vol. 52, no. 20, May 1996 (1996-05), pages 6913-6930, XP002042681  ISSN: 0040-4020  the whole document</p>	3,4,11
X	<p>SEIO, K. ET AL.: "Enhanced stereoselectivity in internucleosidic bond formation by the use of the chiral ribose moiety of thymidine"  J. ORG. CHEM.,  vol. 68, 2003, pages 3849-3859, XP002328262  scheme 2</p>	6,7
X	<p>SCHIRRMACHER, R.: "Radiosynthesis of 2-(((4-(-2-(18F)fluoroethoxy)phenyl)bis(4-methoxy-phenyl)methoxy)ethyl)piperidine-3-carboxylic acid: a potential GAT-3-PET ligand to study GABAergic neuro-transmission in vivo"  J. RADIOLABEL. COMPOUNDS AND RADIOPHARM.,  vol. 44, 2001, pages 627-642, XP002328263  page 630 - page 633</p>	6,7
X	<p>SHCHEPINOV, M.S. AND KORSHUN, V.A.: "Recent applications of bifunctional trityl groups"  CHEM. SOC. REV.,  vol. 32, 2003, pages 170-180, XP009047722  the whole document</p>	3,4,6,7,11
X	<p>WO 01/72926 A (ISIS INNOVATION LIMITED; SHCHEPINOV, MIKHAIL SERGEEVICH; SOUTHERN, EDW) 4 October 2001 (2001-10-04)  page 15; claim 11</p>	6,7,11
	----- -/--	

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/60007 A (ISIS INNOVATION LIMITED; ✓ SOUTHERN, EDWIN, MELLOR; SHCHEPINOV, MIKHAIL,) 25 November 1999 (1999-11-25) figures 3,4 -----	6,7,11
X	WO 98/20019 A (SEQUENOM, INC; LOUGH, ✓ DAVID, M; KOESTER, HUBERT; REUTER, DIRK; HIGGINS) 14 May 1998 (1998-05-14) figures 3,10 -----	11
X	EP 0 424 819 A (MILLIPORE CORPORATION) ✓ 2 May 1991 (1991-05-02) figure 1 -----	6,7
X	US 2003/119021 A1 (KOSTER HUBERT ET AL) ✓ 26 June 2003 (2003-06-26) figures 15,20; example 9 -----	1,2,8,9, 12,15
E	✓ EP 1 506 959 A (OXFORD GENE TECHNOLOGY IP LIMITED) 16 February 2005 (2005-02-16) the whole document -----	1-42

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.2

Claims Nos.: 6,7 and the corresponding dependent claims

The above-indicated claims could only be searched partially since the state of the art comprises numerous compounds falling within the scope of the claims. Only a selection of the relevant documents are cited.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2004/005140

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 6,7 and the corresponding dependent claims  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/005140

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0172926	A	04-10-2001	AU 4432001 A	08-10-2001
			EP 1268706 A1	02-01-2003
			WO 0172926 A1	04-10-2001
			JP 2003528892 T	30-09-2003
			US 2003175742 A1	18-09-2003
			US 2005043414 A1	24-02-2005
WO 9960007	A	25-11-1999	AT 256142 T	15-12-2003
			AU 3943799 A	06-12-1999
			CA 2332862 A1	25-11-1999
			DE 69913509 D1	22-01-2004
			DE 69913509 T2	23-09-2004
			DK 1068216 T3	13-04-2004
			EP 1428810 A2	16-06-2004
			EP 1068216 A2	17-01-2001
			WO 9960007 A2	25-11-1999
			JP 2002515588 T	28-05-2002
			US 6780981 B1	24-08-2004
			US 2005003408 A1	06-01-2005
WO 9820019	A	14-05-1998	US 5900481 A	04-05-1999
			US 6024925 A	15-02-2000
			US 6133436 A	17-10-2000
			AT 204290 T	15-09-2001
			AU 735416 B2	05-07-2001
			AU 5106998 A	29-05-1998
			AU 746737 B2	02-05-2002
			AU 5247298 A	29-05-1998
			CA 2267070 A1	14-05-1998
			CA 2270132 A1	14-05-1998
			DE 19782095 T0	23-03-2000
			DE 19782097 T0	14-10-1999
			DE 69706187 D1	20-09-2001
			DE 69706187 T2	11-04-2002
			EP 1164203 A2	19-12-2001
			EP 0954612 A2	10-11-1999
			EP 0937097 A1	25-08-1999
			HK 1020197 A1	30-11-2001
			JP 2001501967 T	13-02-2001
			NO 992167 A	05-07-1999
			NO 992168 A	06-07-1999
			WO 9820019 A1	14-05-1998
			WO 9820166 A2	14-05-1998
			US 2002042112 A1	11-04-2002
			US 2003129589 A1	10-07-2003
			AT 259056 T	15-02-2004
			AU 745624 B2	28-03-2002
			AU 5198098 A	29-05-1998
			CA 2268740 A1	14-05-1998
			DE 19782096 T0	23-03-2000
			DE 29724250 U1	19-10-2000
			DE 29724251 U1	17-08-2000
			DE 29724252 U1	17-08-2000
			DE 29724341 U1	16-11-2000
			DE 69727489 D1	11-03-2004
			DE 69727489 T2	25-11-2004
			DK 937096 T3	14-06-2004
			EP 1457496 A1	15-09-2004

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/005140

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9820019	A		EP	1460083 A1	22-09-2004
			EP	0937096 A2	25-08-1999
			ES	2215241 T3	01-10-2004
			JP	3516146 B2	05-04-2004
			JP	2001503760 T	21-03-2001
			JP	2004125799 A	22-04-2004
			NO	992169 A	06-07-1999
			WO	9820020 A2	14-05-1998
			US	6818394 B1	16-11-2004
			US	2003096426 A1	22-05-2003
			JP	2002507883 T	12-03-2002
			US	2001008615 A1	19-07-2001
-----					
EP 0424819	A	02-05-1991	US	5410068 A	25-04-1995
			DE	69015566 D1	09-02-1995
			DE	69015566 T2	10-08-1995
			EP	0424819 A1	02-05-1991
			JP	3279371 A	10-12-1991
-----					
US 2003119021	A1	26-06-2003	AU	2002367839 A1	17-11-2003
			CA	2453434 A1	13-11-2003
			EP	1485707 A2	15-12-2004
			WO	03092581 A2	13-11-2003
			AU	2003224674 A1	29-09-2003
			EP	1502102 A2	02-02-2005
			WO	03077851 A2	25-09-2003
			US	2004209255 A1	21-10-2004
-----					
EP 1506959	A	16-02-2005	EP	1506959 A2	16-02-2005